

CLAIMS

1. A carbohydrate which exhibits at least one negatively charged glycosamin-oglycan-like moiety, whereby it is capable of essentially specific binding to a malaria erythrocyte membrane protein or a functional analogue thereof.

2. A carbohydrate according to claim 1, wherein said at least one glycosamin-oglycan-like moiety is sulfated.

3. A carbohydrate according to claim 1, wherein said at least one glycosamin-oglycan like-moiety is a heparan sulfate like moiety.

4. A carbohydrate according to ^{Claim 1} ~~any one of claims 1-3~~, which more specifically is capable of essentially specific binding to at least one of the binding segments of th amino acid sequence disclosed in SEQ ID NO:1 or to a functional analogue thereof.

5. A carbohydrate according to ^{Claim 1} ~~any one of claims 1-4~~, which is capable of essentially specific binding to an amino terminal part of the amino acid sequence disclosed in SEQ ID NO:1 or to a functional analogue thereof.

6. A carbohydrate according to ^{Claim 1} ~~any one of claims 1-5~~, which is capable of essentially specific binding to essentially all of the binding segments of the amino acid sequence disclosed in SEQ ID NO:1 or to a functional analogue thereof.

7. A carbohydrate according to ^{Claim 1} ~~any one of claims 1-6~~, which is capable of essentially specific binding to the sequence disclosed in SEQ ID NO:1 or to a functional analogue thereof.

8. A carbohydrate according to ^{Claim 1} ~~any one of claims 1-7~~ for use as a medicament.

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Claim 1,

9. Use of a carbohydrate according to ~~any one of claims 1-7~~ in the manufacture of a medicament against malaria.

10. A pharmaceutical composition comprising a carbohydrate according to ~~any one of claims 1-7~~ in a pharmaceutically acceptable carrier.

11. A method of treating a patient suffering from a malaria infection comprising administering to the patient of an effective amount of the pharmaceutical composition according to claim 10.

12. A method according to claim 11, wherein the malaria infection is a *P. falciparum* infection.

13. An isolated polypeptide originating from a malaria erythrocyte membrane protein comprising an amino-terminal part of the sequence according to SEQ ID NO:1 or an analogue thereof.

14. A polypeptide originating from a malaria erythrocyte membrane protein comprising at least about 300 amino acids of the sequence according to SEQ ID NO:1 or a functional analogue thereof.

15. A polypeptide according to claim 13 or 14 comprising about 400-500 amino acids, preferably about 423 amino acids, of the sequence according to SEQ ID NO:1 or a functional analogue thereof.

16. A polypeptide according to ~~any one of claims 13-15~~ capable of essentially specific binding to a negatively charged glycosaminoglycan-like moiety, preferably a sulfated glycosaminoglycan-like moiety.

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a 17. A polypeptide according to ~~any one of claims 13-16~~ ^{Claim 13,} having a weight of about 100-300 kDa, preferably about 280 kDa.

a 18. A method of preparing a polypeptide according to ~~any one of claims 13-17~~ ^{Claim 13,} or a functional analogue thereof, which comprises the steps of

5 (1) the inserting into an expression vector of a nucleic acid encoding said polypeptide or analogue thereof;

(2) the transfection of a host cell capable of expressing said nucleic acid with said expression vector to express said polypeptide; and

10 (3) the recovery of the expressed polypeptide.

19. A nucleic acid encoding a polypeptide according to ~~any one of claims 13-17~~ ^{Claim 13,}.

20. A nucleic acid capable of specific hybridisation under stringent conditions to a nucleic acid according to claim 19.

a 21. A recombinant fusion protein comprising a polypeptide according to ~~any one of claims 13-17~~ ^{Claim 13,}.

a 22. A polypeptide according to ~~any one of claims 13-17~~ ^{Claim 13,} for use as a medicament.

a 23. Use of a polypeptide according to ~~any one of claims 13-17~~ ^{Claim 13,} in the manufacture of a medicament for the treatment or prevention of malaria, or the vaccination against malaria.

25 a 24. A pharmaceutical composition comprising a polypeptide according to ~~any one of claims 13-17~~ ^{Claim 13,} in a pharmaceutically acceptable carrier.

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25. A method of treating a patient suffering from a malaria infection comprising administering to said patient of an effective amount of the pharmaceutical composition according to claim 23.

5 26. A method according to claim 24, wherein the malaria infection is a *P. falciparum* infection.

a 27. Use of a polypeptide according to ^{Claim 16,} ~~any one of claims 16-18~~ as a model substance for identifying substances binding to malaria erythrocyte membrane protein or analogues thereof.

10 28. An antibody which is specifically immunoreactive with a polypeptide according to ^{Claim 13,} ~~any one of claims 13-17~~ or with an analogue thereof.

15 29. A pharmaceutical composition comprising an antibody according to claim 28 in a pharmaceutically acceptable carrier.

20 30. A method of treating a patient suffering from a malaria infection comprising administering to said patient of an effective amount of the pharmaceutical composition according to claim 29.

25 31. A method of preventing malaria in a human or animal object comprising exposure of said human or animal for an effective amount of the pharmaceutical composition according to claim 29.

a 32. A method according to claim 30 ~~or 31~~, wherein the malaria is *P. falciparum* malaria.